

OPIOIDS

TRENDS AND CURRENT STATUS IN MASSACHUSETTS

Fatal Overdoses, Hospital Discharges, Emergency Department Visits, & Trends in Treatment Services

Massachusetts Department of Public Health
Center for Health Information, Statistics, Research & Evaluation, and the Bureau of Substance Abuse Services

June 2005

DATA HIGHLIGHTS

- Poisonings, which include drug overdoses, are the leading cause of injury death in Massachusetts, surpassing motor vehicle injury deaths. The poisoning death rate in MA increased 128% from 1990 to 2003 (5.7 per 100,000 to 13.0 per 100,000, respectively).
- The proportion of the total poison deaths which were associated with an opioid increased from 28% in 1990 to 69% in 2003.
- From 1999 to 2003, opioid-related fatal overdose rates increased 71% (5.2 per 100,000 to 8.9 per 100,000, respectively); rates for opioid-related hospitalizations increased 68% (from 162.6 per 100,000 to 273.3 per 100,000, respectively).
- Total charges for opioid-related hospitalizations including dependence, abuse, and/or overdoses, exceeded \$167 million in 2003.

WHAT ARE OPIOIDS?

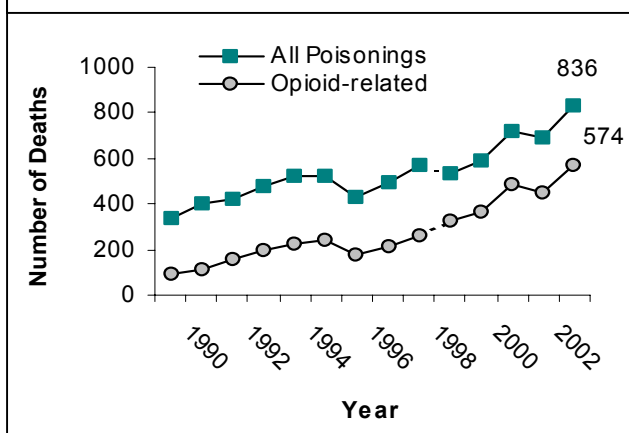
The term "opioid" designates a class of drugs derived from opium or manufactured synthetically with a chemical structure similar to opium. Heroin is a naturally derived opioid. Other opioids such as oxycodone (OxyContin®), morphine, meperidine, methadone, codeine and others, are used therapeutically for the management of pain and other conditions. These products may be diverted from pharmaceutical purposes and used illicitly.

OPIOID-RELATED FATAL OVERDOSES¹

MAGNITUDE AND TRENDS

- Poisonings, which include drug overdoses, are the leading cause of injury death in Massachusetts accounting for 30.7% of injury deaths in 2003, and surpass motor vehicle injury deaths. The poisoning death rate in MA increased 128% from 1990 to 2003 (5.7 per 100,000 to 13.0 per 100,000, respectively).
- Opioid-related poisoning deaths as a proportion of all poisoning deaths increased from 28% in 1990 to 69% in 2003.
- In 2003, deaths due to opioid-related overdoses (n=574) were 6 times the number of deaths in 1990 (n=94).
- Opioid-related death rates increased 156% (an

Figure 1. Poisoning and Opioid-Related Fatal Overdoses, MA Residents, 1990-2003



Source: Registry of Vital Records and Statistics, MDPH.

¹ Due to a change in ICD coding procedures, which occurred in 1999, death data were analyzed in two distinct periods; 1990-1998 (ICD-9), and 1999-2003 (ICD-10). All rates reported in this bulletin are crude rates and were generated from yearly population estimates from the US Census, MISER, and DPH.

OPIOID-RELATED FATAL OVERDOSES *(continued)*

average of 15% per year) between 1990 and 1998 (1.6 per 100,000 and 4.1 per 100,000 respectively), and 71% (an average of 16% per year) between 1999 and 2003 (5.2 per 100,000 and 8.9 per 100,000 respectively).

AGE GROUPS

- Between 1990 and 2003, rates increased for both males and females and among age groups between ages 15 and 54.
- In 2003, individuals between the ages of 35 and 44 experienced the highest opioid-related fatal overdose rate (20.6 deaths per 100,000).

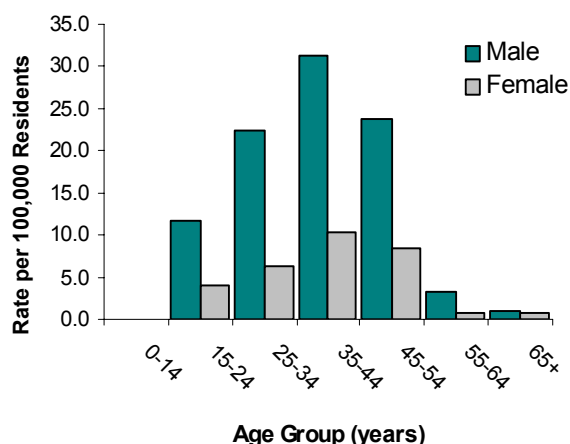
SEX

- For all age groups, opioid-related fatal overdoses were higher among males than females. In 2003, death rates due to an opioid-related overdose among males were over 3 times higher than for females (13.8 deaths per 100,000 and 4.4 per 100,000, respectively).
- Opioid-related overdose rates among females increased an average of 17% per year between 1991² and 1998, and 11% per year between 1999 and 2003.
- Rates among males increased an average of 13% per year between 1990 and 1998, and an average of 23% between 1999 and 2003.

RACE/ETHNICITY

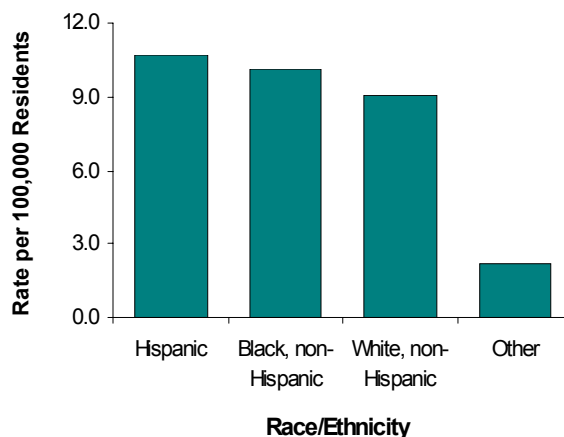
- In 2003, opioid-related fatal overdose rates were highest among Hispanic residents (10.7 per 100,000) followed by Black, non-Hispanic (10.1 per 100,000) and White, non-Hispanic (9.1 per 100,000) residents.

Figure 2. Opioid-Related Fatal Overdose Rates by Age Group and Sex, MA Residents, 2003



Source: Registry of Vital Records and Statistics, MDPH.

Figure 3. Opioid-Related Fatal Overdose Rates by Race/Ethnicity, MA Residents, 2003



Source: Registry of Vital Records and Statistics, MDPH.

² Due to low case numbers in 1990, percentage increase was reported for rates beginning in 1991.

NON-FATAL OPIOID-RELATED HOSPITALIZATIONS³

MAGNITUDE AND TRENDS

- Opioid-related hospital discharge rates have risen substantially since 1996, increasing 68% from 1999 to 2003 (from 162.6 per 100,000 to 273.3 per 100,000, respectively).
- In 2003, there were 17,580 opioid-related acute care hospital discharges among Massachusetts residents (273.3 per 100,000 residents).
- Total acute care hospital charges* for opioid-related cases including dependence, abuse, and/or overdoses, exceeded \$167 million in 2003.

SEX

- From 1999 to 2003, the rate of opioid-related hospital discharges increased 81% among males and 55% among females.

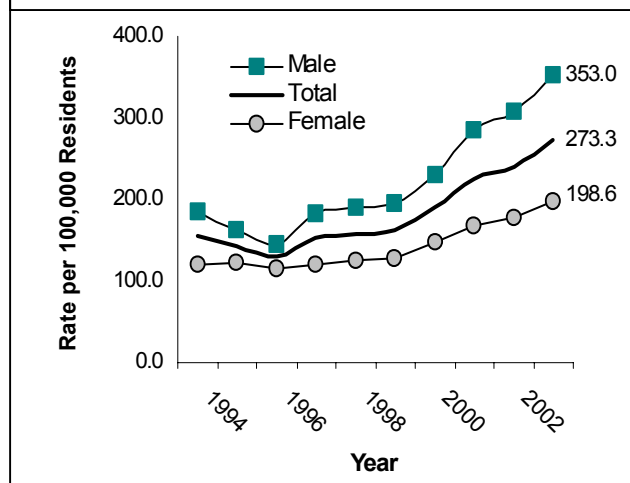
AGE GROUPS

- Between 1999 and 2003, the largest increases in opioid-related hospital discharge rates were observed among individuals aged 15 to 24 years (150.1 per 100,000 to 399.1 per 100,000), and 65 years and older, (12.7 per 100,000 to 32.8 per 100,000), a 166% and 158% increase, respectively.
- In 2003, males of every age group age 15 and over, had higher hospital discharge rates than females. The largest disparity of opioid-related hospital discharge rates between males and females were among persons aged 45 to 54 and 55 to 64, with males having rates 1.9 times that of females.

³ Represents all acute-care hospitalizations where opioid abuse, dependence and/or poisoning was reported as one of the diagnoses at discharge. Data excludes hospitalizations at Veterans Affairs, psychiatric, rehabilitative or long-term care facilities and deaths that occurred during hospitalization. Trends are reported from 1994 onward for data quality reasons (when external cause coding of injury cases was mandated).

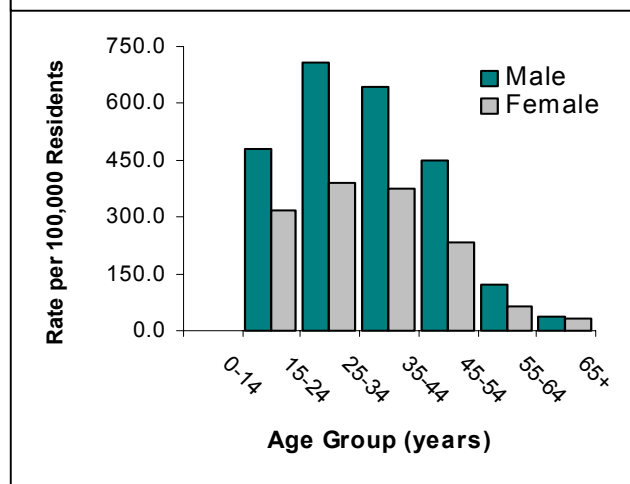
*Including hospital charges for persons who subsequently died.

Figure 4. Opioid-Related Hospital Discharge Rates by Sex, MA Residents, 1994-2003



Source: MA Hospital Discharge Database, MA Division of Health Care, Finance and Policy.

Figure 5. Opioid-Related Hospital Discharge Rates by Age Group and Sex, MA Residents, 2003



Source: MA Hospital Discharge Database, MA Division of Health Care Finance and Policy.

STATEWIDE NON-FATAL OPIOID-RELATED EMERGENCY DEPARTMENT VISITS⁴

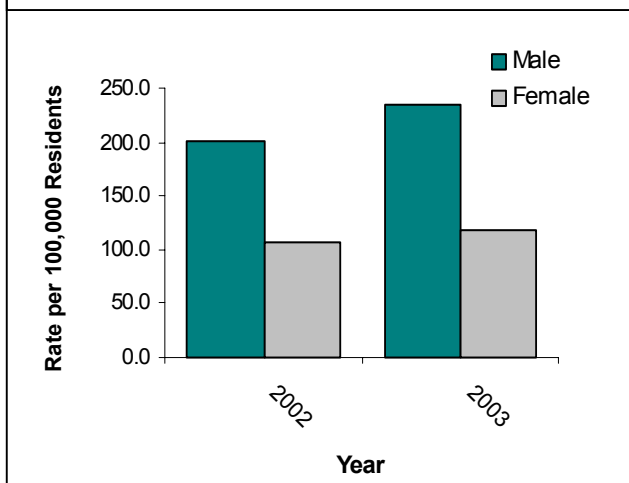
MAGNITUDE AND TRENDS

- In 2002, there were 9,848 opioid-related emergency department (ED) visits among Massachusetts residents (153.3 per 100,000 residents).
- In 2003, there were 11,257 opioid-related ED visits among Massachusetts residents (175 per 100,000 residents).

SEX

- In 2003, the opioid-related ED visit rate among males was 2 times higher than for females (235.7 per 100,000 and 118.1 per 100,000, respectively).

Figure 6. Opioid-Related Emergency Department Visit Rates by Sex, MA Residents, 2002-2003

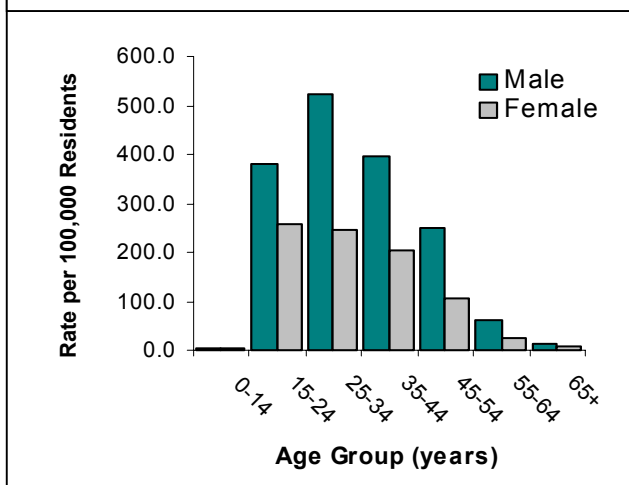


Source: MA Emergency Department Discharge Database, MA Division of Health Care, Finance and Policy.

AGE GROUPS

- In 2003, males of every age group age 15 and over had higher ED visit rates than females. The largest disparity of opioid-related ED visit rates between males and females were among persons aged 55 to 64, with males having rates 2.7 times that of females.
- The highest opioid-related ED visit rate for males was among persons aged 25 to 34 (523.9 per 100,000). For females, the highest opioid-related ED visit rate was among persons aged 15 to 24 (256.1 per 100,000).

Figure 7. Opioid-Related Emergency Department Visit Rates by Age Group and Sex, MA Residents, 2003



Source: MA Emergency Department Discharge Database, MA Division of Health Care, Finance and Policy.

⁴ Represents all acute-care ED visits where opioid abuse, dependence, and/or poisoning was reported as one of the diagnoses upon discharge from the ED. Visits resulting in hospital admission are not included in these data. Statewide data are available for 2002 and 2003 only.

BOSTON METROPOLITAN AREA EMERGENCY DEPARTMENT VISITS⁵

MAGNITUDE AND TRENDS

- The estimated emergency department (ED) visits due to heroin use for the greater Boston area increased 40% from 1999 to 2002.
- For the greater Boston area, the estimated ED visits due to the use of narcotic analgesics and narcotic combinations, excluding heroin, increased 134% from 1999 to 2002.

TREATMENT AND PREVENTION⁶

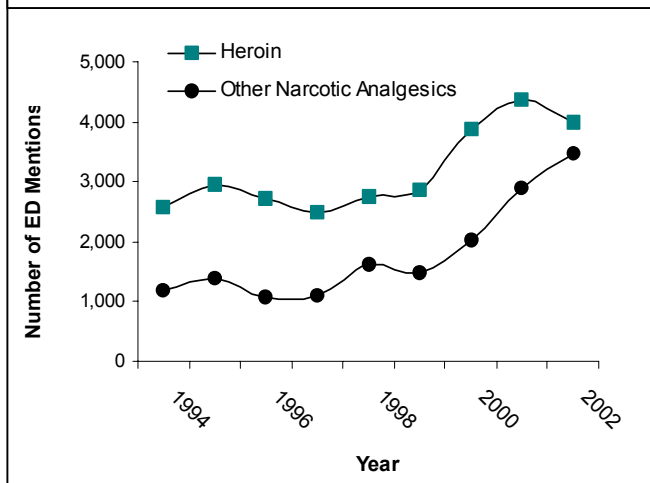
TREATMENT FOR ADULT HEROIN USERS

- In 2004, there were 42,706 admissions among Massachusetts adults (ages 18 and over) for publicly funded substance abuse treatment services who reported having used heroin.

PATIENT CHARACTERISTICS FOR 2004

- 69% (n=29,334) of patients were male and 31% (n=13,372) were female.
- One third of treatment admissions in 2004 were among persons between the ages of 30 and 39 (n=14,054); the mean age was 33.6 years.
- 70% of patients were white, 8% were black, and 20% were Latino.
- 71.5% of patients reported injection drug use during the past year.
- 89.5% were unemployed, 25.6% were homeless, and 27.9% had received prior mental health treatment.

Figure 8. ED Mentions for Heroin and Other Narcotics, Estimates for Greater Boston, 1994-2002



Source: Drug Abuse Warning Network (DAWN), Substance Abuse and Mental Health Services Administration. USDHHS.

⁵ Source: Drug Abuse Warning Network (DAWN), Substance Abuse and Mental Health Services Administration, US Dept. of Health and Human Services. <http://dawninfo.samhsa.gov>. DAWN is a national public health surveillance system that monitors trends in drug abuse related emergency department visits. Local estimates are derived from a sample of hospitals in the greater Boston Metropolitan area. Each drug for a reported case is called a "mention." One drug-related ED visit can have up to four specific substances listed. DAWN data are not collected in other areas of Massachusetts.

⁶ Source: Bureau of Substance Abuse Services Management Information System (SAMIS), MDPH. SAMIS includes data provided by all BSAS licensed substance abuse treatment programs. Data reflect admissions, not patients. Patients can have multiple admissions.

RESOURCES

**Massachusetts Department of Public Health
Bureau of Substance Abuse Services**
250 Washington Street, 3rd Floor
Boston MA, 02108
Tel. (617) 624-5111
Fax (617) 624-5185
TTY (617) 536-5186
www.state.ma.us/dph/bsas/BSAS.htm

**Massachusetts Department of Public Health
Center for Health Information, Statistics, Research &
Evaluation**
Injury Surveillance Program
250 Washington Street, 6th Floor
Boston MA, 02108
Tel. (617) 624-5648
Fax (617) 624-5099
www.state.ma.us/dph/bhsre/isp/isp.htm

Regional Center for Poison Control and Prevention
Serving Massachusetts and Rhode Island
Children's Hospital Boston
300 Longwood Avenue, IC Smith Building
Boston, MA 02115
Tel. (617) 355-6609
Fax (617) 730-0521
Rhode Island Educator: (401) 222-3425
In an **Emergency**, call **1-800-222-1222**
www.maripoisoncenter.com

**Massachusetts Department of Public Health
Center for Family and Community Health
Injury Prevention and Control Program**
250 Washington Street, 6th Floor
Boston MA, 02108
Tel. (617) 624-5413
Fax (617) 624-5075
TTY (617) 624-5992
www.mass.gov/dph/fch/injury/index.htm

**Substance Abuse and Mental Health
Services Administration**
www.samhsa.gov
Center for Substance Abuse Prevention
Tel. (301) 443-0365
www.samhsa.gov/centers/csap/csap.html
Center for Substance Abuse Treatment
Tel. (301) 443-5700

**National Clearinghouse for Alcohol and Drug
Information (NCADI)**
Tel. 1-800-729-6686

**Massachusetts Community Health Information
Profile (MassCHIP)**
www.masschip.state.ma.us/
Tel. 1-888-MAS-CHIP
(in Massachusetts)

This publication was developed by the Injury Surveillance Program, Center for Health Information, Statistics, Research and Evaluation, and the Bureau of Substance Abuse Services.

Support for this publication in part comes from the Centers for Disease Control and Prevention (#U17/CCU119390 and #U17/CCU119400). Its contents are solely the responsibility of the authors and do not represent the official views of the Centers for Disease Control and Prevention.

FOR INFORMATION ON SUBSTANCE TREATMENT AND SERVICES:

Contact the Department's
Bureau of Substance Abuse Services on-line at

www.state.ma.us/dph/bsas/BSAS.htm

OR
Call the

MA Substance Abuse Information and Education

**HELPLINE @
1-800-327-5050**